

## REMARKS

Applicants respectfully request entry of the foregoing and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow.

Claims 1, 3-27, 29-30, 32-55 and 57-58 are pending in the application.

By the above amendments, Applicants have amended Claims 12 and 41 by replacing "bisbenzoazolyl derivatives" with --bisbenzoazolyls-- to address the § 112 issue. Because these amendments do not narrow the scope of Claims 12 and 41, Claims 12 and 41 should be accorded their full range of equivalents.

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. § 119, and for indicating that all certified copies of the priority documents have been received. Applicants also thank the Examiner for the Examiner-initialed form PTO 1449 dated March 31, 2006. Finally, Applicants thank the Examiner for withdrawing the objection to the specification, the § 112, second paragraph, rejections of Claims 1-10, 19-24, 30-39 and 47-52, the § 102(b) rejection of Claims 1-6, 9-12, 14, 15, 25, 30-31 and 40-41 over Iijima (U.S. Patent No. 6,258,857), the § 102(b) rejection of Claims 30-31, 0-41, 43 and 45-46 over Roman (U.S. Patent No. 6,171,602), the § 103(a) rejection of Claims 30-39, 40-41 and 53 over Roman and the § 103 rejection of Claim 3, 5, 7, 8, 11, 16-18, 28-29, 40-41 and 43-44 over Iijima.

Turning now to the Official Action, Claims 12-41 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. For at least the reasons that follow, withdrawal of the rejection is in order.

Concerning the rejection of Claims 12 and 41 for use of the term "derivatives," Applicants believe that one of ordinary skill in the art having read the disclosure, having knowledge of the teachings of the prior art, or employing the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art, would, understand the meaning of the term "derivatives." Nevertheless, in an effort to expedite prosecution of the application, Applicants have amended Claims 12 and 41 by replacing "bisbenzoazolyl derivatives" with --bisbenzoazolyls--.

For at least these reasons, Applicants respectfully request reconsideration and withdrawal of the § 112, second paragraph, rejection.

Claims 13, 42, 58 and 59 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Iijima (U.S. Patent No. 6,258,857) in view of Fankhauser (U.S. 2002/0155073). Claims 1, 3-6, 9-12, 14-18, 25, 29-30, 32-41, 43-46 and 53 are also rejected under § 103(a) over the asserted combination of references. For at least the reasons that follow, withdrawal of the rejection is in order.

Independent Claim 1 defines a device comprising (A) a reservoir confining at least one composition intended for protecting the skin and/or hair against UV radiation, and (B) means to place said composition under pressure, wherein said composition is in the form of simple or complex emulsion and comprises, in a cosmetically acceptable aqueous carrier:

- (a) a photoprotective system capable of screening out UV radiation; and
- (b) spherical microparticles of porous silica. (Emphasis added.)

Independent Claim 30 defines a composition suited for pressurization and intended for protecting the skin and/or hair against UV radiation, wherein said

composition is in the form of a simple or complex emulsion and comprises, in a cosmetically acceptable aqueous carrier:

- (a) a photoprotective system capable of screening out UV radiation; and
- (b) spherical microparticles of porous silica. (Emphasis added.)

The Official Action asserts that Iijima lacks the teaching of species of UV-screening agents belonging to the groups stated in the claims, and regimes or regimens for UV-protecting skin and/or hair by spraying on an effective amount of a sunscreen composition. The Official Action further asserts that Fankhauser teaches mixtures of micronized organic UV filters for preventing tanning and/or lightening human skin and hair and to the use of cosmetic and pharmaceutical formulations.

(See the Official Action mailed November 30, 2005, at page 10.)

Iijima relates to (1) a composition contained in a releasing container such as an aerosol container or pump type releasing container, and used as being released from such releasing container, and (2) a releasing container product containing such composition. (See Iijima at col. 1, lines 5-11.)

Fankhauser relates to the use of mixtures of micronized organic UV fillers for preventing tanning and for lightening human skin and hair and to their use in cosmetic and pharmaceutical formulations. (See Fankhauser at col. 1, paragraph [0001].)

To establish a *prima facie* case of obviousness, the prior art references (or references when combined) must teach or suggest all of the claim features. See In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). In addition, "all words in a claim must be considered in judging the patentability of that claim against the prior

art." See In re Wilson, 424F.2d 1382, 1385; 165 U.S.P.Q. 494, 496 (CCPA 1970). See M.P.E.P. § 2143.03.

Neither Iijima nor Fankhauser, alone or in combination, disclose or fairly suggest a device or a composition comprising an emulsion and a photoprotective system capable of screening out UV radiation, as recited in independent Claims 1 and 30. In addition, neither reference, alone or in combination, discloses or fairly suggests a device comprising such an emulsion and photoprotective system and further comprising a means to place the composition comprising the emulsion and photoprotective system under pressure, as further recited in Claim 1.

Thus, the asserted combination of references does not establish a *prima facie* case of obviousness because it does not teach or fairly suggest all of the claimed features. In addition, the above-asserted combination fails to reflect a proper consideration of "all words" in the claims. In particular, the asserted combination does not reflect proper consideration of "a simple or complex emulsion", "a photoprotective system capable of screening UV radiation", and "means to place said composition under pressure."

In establishing a *prima facie* case of obviousness under 35 U.S.C. § 103, it is also incumbent upon the Patent Office to provide reasons *why* one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed subject matter. To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from Applicants disclosure. See Ex parte Nesbit, 25 U.S.P.Q.2d 1817, 1819 (BPAI 1992); In re Oetiker, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992). The mere

fact that the prior art can be modified does not make such a modification obvious unless the prior art suggests the desirability of the modification. See In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). There must be some intrinsic basis in the prior art or some extrinsic factor that would prompt one of ordinary skill in the art to combine the teachings of the references; otherwise, the Patent Office's burden of establishing a *prima facie* case of obviousness has not been met. Moreover, the determination of whether some reason, suggestion, or motivation existed for making the combination must be made from the viewpoint of the hypothetical person of ordinary skill in the field of the invention. See In re Oetiker, 24 U.S.P.Q.2d at 1446; and In re Raines, 28 U.S.P.Q.2d 1630, 1631 (Fed. Cir. 1993).

In the present case, no such factors or motivation for combining Iijima and Fankhauser exist. In particular, the examples of Iijima are directed to hydroalcoholic lotions including active ingredients such as insect repellant (i.e., DEET) or anti-perspirant (i.e., aluminum hydroxide chloride). Nowhere, however, does Iijima disclose or fairly suggest use of an emulsion comprising a photoprotective system capable of screening out UV radiation in combination with spherical microparticles of porous silica. Fankhauser does not overcome these deficiencies. In particular, Fankhauser discloses preventing tanning and lightening human skin and hair by applying micronized organic UV filters. Nowhere, however, does Fankhauser disclose or fairly suggest using spherical microparticles of porous silica in a pressurized emulsion composition, as claimed.

In view of the deficiencies in Iijima and the failure of Fankhauser to provide any suggestion that one should, or even could, enhance SPF by modifying Iijima to include features disclosed in Fankhauser, Applicants submit that the Official Action

has not demonstrated that one of ordinary skill in the art would have been motivated to combine the references to obtain the claimed combinations of features. Thus, Applicants contend that there is no basis, absent the impermissible use of hindsight based on Applicants' disclosure for combining the references as suggested by the Official Action.

Furthermore, as stated by the Federal Circuit, evidence arising out of the so-called secondary considerations must always, when present, be considered en route to a determination of obviousness. Indeed, evidence of secondary considerations can often be the most probative and cogent evidence in the record. It can often establish that an invention appearing to have been obvious in light of the prior art was not. See Stratoflex, Inc. v. Aeroquip Corp., 218 U.S.P.Q. 871, 879 (Fed. Cir. 1983); and Joy Technologies v. Quigg, 14 U.S.P.Q.2d 1432, 1444 (DDC 1990).

In the present case, there is certainly no appreciation in any of the cited references, alone or in combination, of the unexpected and surprising advantages obtained by the claimed device and composition. In particular, Applicants submit that the cited references, even in combination, fail to disclose or suggest that one could combine specific features to arrive at a device and/or composition that exhibits significantly increased sun protection factor (SPF).

To further support this position, Applicants carried out comparative tests using (1) a hydroalcoholic lotion according to Iijima capable of being packaged as a non-aerosol spray and capable of being dispensed in the form of fine particles and (2) an anti-sun formulation B in the form of an emulsion according to the pending claims capable of being packaged as a non-aerosol spray and capable of being dispensed in the form of fine particles. The results presented in the attached tables show that

the addition in a vaporizable carrier of spherical microparticles of porous silica to an emulsion containing a UV filter (i.e., benzophenone-3 s) makes it possible to significantly increase sun protection factor (SPF) by more than 100%. If the Examiner believes it would be helpful, Applicants would consider submitting this data in the form of a Declaration.

Thus, even if the Official Action had established a *prima facie* showing of obviousness, Applicants submit that the unexpected results achieved by the claimed combination of features would rebut such a showing.

For at least these reasons, independent Claims 1 and 30 are patentable over the above-asserted combination of references. The remaining claims depend, directly or indirectly, from the rejected independent claims and are, therefore, also patentable over the above-asserted combination of references for at least the reasons that independent Claims 1 and 30 are patentable.

Claims 19-24 and 47-52 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Iijima in view of Torgenson (U.S. Patent No. 6,458,906). In addition, the Official Action asserts that Claims 1, 3-12, 14-18, 25, 29, 30 and 32-41 are also rejected under § 103(a) over the same combination of references. For at least the reasons that follow, withdrawal of the rejection is in order.

Torgenson relates to water and alcohol soluble or dispersible thermoplastic lassooers copolymers and to cosmetic and pharmaceutical compositions containing the see copolymers. (See Torgenson at col. 1, lines 10-15.) Applicants submit that Torgenson fails to overcome the above-identified deficiencies of Iijima.

Again, to establish a *prima facie* case of obviousness, the prior art references (or references when combined) must teach or suggest all of the claim features. In

addition, "all words in a claim must be considered in judging the patentability of that claim against the prior art." (See In re Royka, In re Wilson, and M.P.E.P. §2143.03.)

Applicants submit that the above-asserted combination of references does not satisfy these requirements and thus does not establish a *prima facie* case of obviousness. In particular, Applicants again submit that the asserted combination does not disclose or fairly suggest a device or a composition comprising the recited combination of features including an emulsion and a photoprotective system of capable of screening out UV radiation. Furthermore, there is no disclosure or suggestion of using a composition in the form of an emulsion comprising a photoprotectable system capable of screening out UV radiation in combination with spherical microparticles of porous silica, as recited in Claims 1 and 30, or a device comprising such a composition and means to place the composition under pressure, as further recited in Claim 1. Thus, the asserted combination of references fails to disclose or fairly suggest each features of independent Claims 1 and 30, and fails to reflect a proper consideration of all words in the independent claims.

The Official Action also fails to establish a *prima facie* case of obviousness over the asserted combination because it fails to demonstrate why one or ordinary skill in the art would have been led to modify the references to arrive at the claimed combination of features. Applicants respectfully submit that there is no basis, absent the impermissible use of hindsight based on Applicants disclosure, for combining the references as suggested in the Official Action.

Furthermore, even if the Official Action has established a *prima facie* showing of obviousness, Applicants submit that the unexpectedly enhanced sun protection

factor (SPF) resulting from the claimed combination of features would rebut such a showing. (See the comparative test results presented in the attached tables.)

For at least these reasons, Claims 1 and 30 are patentable over the above-asserted combination. Because the remaining claims depend, directly or indirectly, from independent Claims 1 or 30, the remaining claims are also patentable over the above-asserted combination of references for at least the reasons that Claims 1 and 30 are patentable. Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection over Iijima in view of Torgerson.

Claims 26-27, 54-55 and 57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Iijima in view of Torgerson and further in view of Candau (U.S. Patent No. 6,033,648). For at least the reasons that follow, withdrawal of the rejection is in order.

Again, the establishment of a *prima facie* case of obviousness requires that the Official Action demonstrate that the prior art references (or references when combined) teach or suggest all of the claim features. See In re Royka. In addition, the Official Action must demonstrate that "all words" in the claims have been considered in judging the patentability of the claim against the prior art. See, In re Wilson and M.P.E.P. §2143.03.

Claims 26-27, 54-55 and 57 depend, directly or indirectly, from the independent Claims 1 and 30, and, therefore, necessarily include all of the features of independent Claims 1 and 30.

Candau relates to novel cosmetic and/or dermatological compositions comprising at least one iron oxide nanopigment, well suited for artificially tanning and/or darkening human skin to such extent as to resemble a natural tan. (See,

Candau at col. 1, lines 10-18.) Applicants submit that Candau fails to overcome the above deficiencies of Iijima and Torgenson.

Applicants respectfully submit that the asserted combination of Iijima, Torgenson and Candau does not establish a *prima facie* case of obviousness because the combination does not disclose or fairly suggest each feature of independent Claims 1 and 30, which are necessarily present in rejected Claims 26-27, 54-55 and 57. In particular, as explained above, the asserted combination does not disclose or fairly suggest a device or composition comprising an emulsion and a photoprotective system capable of screening out UV radiation, as recited in independent Claims 1 and 30. In addition, the asserted combination fails to disclose or fairly suggest a device comprising a means to place such composition under pressure, as further recited in Claim 1.

Accordingly, the asserted combination of references fails to disclose or fairly suggest these features of the independent claims and does not reflect a proper consideration of all words in independent Claims 1 and 30.

In addition, the Official Action has not demonstrated that one of ordinary skill in the art would have been motivated to combine the references to obtain the claimed combination of features absent the impermissible use of hindsight based on Applicants disclosure. Thus, the Official Action fails to establish a *prima facie* case of obviousness for at least this additional reason.

Furthermore, even if the Official Action had established a *prima facie* showing of obviousness, Applicants submit that the unexpectedly enhanced sun protection factor (SPF) resulting from the claimed combination of features would rebut such a showing. (See the comparative test results presented in the attached tables.)

For at least these reasons, Claims 26-27, 54-55 and 57 are patentable over the above-asserted combination of references for at least the reasons that Claims 1 and 30 are patentable. Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection over Iijima, Torgerson and Candau.

Claims 1, 3-4, 9-12, 14-17, 30, 32-33, 38-41 and 43-46 stand provisionally rejected on the ground of non-statutory obviousness/double patenting over Claims 1-4, 6-15, 29 and 30 of co-pending Application No. 10/365,653.

Because of the provisional nature of the rejection, Applicants respectfully request that the rejection be held in abeyance until there has been an indication of allowable subject matter. At that time, if the rejection is maintained, Applicants will respond appropriately.

From the foregoing, Applicants earnestly solicit further and favorable action in the form of a Notice of Allowance.

If there are any questions concerning this paper or the application in general, Applicants invite the Examiner to telephone the undersigned at the Examiner's earliest convenience.

Respectfully submitted,

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Attachment: Comparative Test Results

### COMPARATIVE TESTS

An anti-sun formulation A in the form of hydro-alcoholic lotion according to the prior art (US 6,258,857) capable of being packaged as a non-aerosol spray and capable of being dispensed in the form of fine particles was prepared. The said formulation A contains 2,5% by weight of spherical microparticules porous silica (ie Silica Beads SB 150) et containing 6% by weight of UV filter : benzophenone-3..

<b>Formulation A : Hydro-alcoholic Lotion (prior art)</b>	<b>Quantity % by weight</b>
BENZOPHENONE-3	6
C12-15 ALKYL BENZOATE (FINSOLV TN)	15
POLYETHYLENE (ACUMIST B-6)	0,8
SILICA (SILICA BEADS SB 150)	2,5
DENATURATED. ALCOHOL	68,7
WATER	7

An anti-sun formulation B in the form of emulsion according to the invention capable of being packaged as a non-aerosol spray and capable of being dispensed in the form of fine particles was prepared. The said formulation B contains 2,5% by weight of spherical microparticules porous silica (ie Silica Beads SB 150) et containing 6% by weight of UV filter : benzophenone-3..

<b>Formulation B : Emulsion (invention)</b>	<b>Quantity % by weight</b>
GLYCERYL STEARATE + PEG-100 STEARATE (ARLACEL 165)	1
CETYL ALCOHOL	0,5
BENZOPHENONE-3	6
C12-15 ALKYL BENZOATE (FINSOLV TN)	15
SILICA (SILICA BEADS SB 150)	2,5
PRESERVATIVE	QS
WATER	73,4

For each of the compositions A and B, the sun protection factor (SPF) which was attached to it was then determined. This was determined using the in vitro method described by B.L. DIFFEY et al., in J. Soc. Cosmet. Chem. 40 127-133 (1989); this method consists in determining the monochromatic protection factors in a range of wavelengths from 290 to 400 nm and in calculating from them the sun protection factor according to a given mathematical equation. The measurement was carried out with a step of 1 nm on a UV-1000S apparatus from the company Labsphere, 0.75 mg/cm<sup>2</sup> of product being spread on two sheets in PMMA.

The results (mean value corresponding to 10 measurements by sheet) are grouped together in Table below:

Composition	A (prior art)	B (invention)
	Hydro-alcoholic	Emulsion
	Lotion	
Mean SPF	4,2	8,9
(standard deviation)	(0,5)	(0,5)

**These results clearly show that the addition, in a vaporizable carrier of spherical microparticles of porous silica to an emulsion containing a uV filter : benzophenone-3 s makes it possible to significantly increase its sun protection factor (more than 100%).**